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Consumers' Intention to Purchase towards Green Technology: An empirical Investigation for Sutainable Transportation System in Kuala-Lumpur, Malaysia

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Abstract

This paper investigates how individual values and attitudes in a developing country like Malaysia influence purchase intention of an environmental friendly car using the motivational theory of Reasoned Action (TRA). It also investigates how values may affect attitudes towards environmentally responsible purchase intention. The study analyzed data collected from 200 households asking their observation relating their value sets, attitudes and purchase intention of environmental friendly car using the Structural Equation Modeling (SEM) technique. Findings of this study indicate that an individual consequence which is related to amount of effort and convenience of consumers is negatively related to intention to purchase green product. Environmental consequences are not a significant interpreter of environmentally responsible purchase intention. Conservation value was initiated to be positively related to attitude on environmental consequences but less intensely with individual consequences. It has been also found that self-transcendence value and self-enhancement value were positively related to individual consequences. Individual consequences and self-enhancement value were negatively related to environmentally responsible purchase intention. This study suggests that the relevance and usefulness of the TRA can be used in examining beliefs, values and attitudes towards green products purchase intention in Malaysia.

Keywords: Environmental problem, automotive industries, Purchase intention, Green car, Consumer, Malaysia

1. Introduction

Transportation sector is the second most energy consuming sector after industrial sector and accounts for about 40% of the total energy consumption in Malaysia (Ministry of Transport, Malaysia, 2010). The rising energy demand compounded with fuel subsidies and a volatility of oil prices has set the transport sector on an unsustainable course and posed a threat to national energy security. Moreover, since the transport sector in Malaysia is heavily reliant on petroleum, it contributes significantly to the greenhouse gas emission. A transformation of the transportation sector is essential to decrease greenhouse gas emissions, air pollution and dependence on fossil fuel. Alternative fuel vehicles (AFVs) are a feasible transportation technology capable of setting the transportation sector in a sustainable course. In the U.S., large deployment of AFVs can play a significant role in addressing some of these problems (Natural Resources Defense Council, 2007). Recently, the Malaysian government is giving efforts to improve the public transportation through the energy efficient transport mode. The government is also planning to promote the use of green-technology vehicles such as alternative fuel vehicles (AFVs). Programmes to increase the patronage of public transportation, improving traffic congestion and introduction of AFVs have implication to reduce energy use indirectly but the success of those prohrammes is dependent on a number of factors such as availability of infrastructure for road networks, the share of public and private

transportation as well as the role of AFVs and most importantly the support of the households and their purchase intention towards AFVs.

In developed countries, AFVs are becoming more attractive for the households, partly because of various measures implemented to promote their use, such as tax breaks and access to carpool lanes. In a recent survey of Californians, 74 percent of respondents stated they would "seriously consider getting a more fuel-efficient car" in their next vehicle purchase (Mark *et al.*, 2008). The purchase intention of the households towards a car involves a social identity and status and it gives a great deal of importance in a social context. It also depends on time, preferences of the attributes of the car such as cost, design, environmental issues and convenience of the consumer.

AFVs are vehicles designed to operate on at least one alternative to petroleum and diesel and include electric vehicles (EVs), hybrid electric vehicles (HEV), battery electric vehicles (BEV). EVs are vehicles in which partial or entire propulsion power is provided from electricity. The HEV combines the ICE along with an electric motor to achieve a higher fuel economy than similar-sized vehicles. Some commercially available HEVs include the Toyota Prius, Ford Escape Hybrid and Honda Civic Hybrid. The Electric Vehicle (EV) has a smaller internal combustion engine than the HEV and has a larger battery capable of powering the vehicle for distances between 20 and 60 miles (Sovacool and Hirsh, 2009).

Research shows that some common barriers to the adoption of any new technology include lack of knowledge by potential adopters, high initial costs and low risk tolerance (Diamond, 2009). A study by Oliver and Rosen (2010) indicates that consumer acceptance of HEVs is limited partly due to perceived risks with new products and tradeoffs between vehicle fuel efficiency, size and price. The general public's perception of risk is based on experience, emotions, the media and other non-technical sources (Sjoberg, 1998). In general, media and social networks often influence values that affect consumer choices (Rogers, 2003; Lane and Potter 2007). In terms of financial benefits, individuals are more likely to choose options that maximize utility based on their preferences, knowledge of alternatives and budget (Roche et al., 2010). The initial cost of an EV is significantly higher when compared to a gasoline powered ICE vehicle and this cost increases linearly with battery size or the range of the car. Duvall (2002) estimates that the extra cost of owning a HEV ranges between $2500 and $14,000 compared to ICE vehicles. In Duvall's estimation, he used the average national gasoline price at the time, which was $1.65 per gallon. Due primarily to battery cost, EVs particularly PHEVs and BEVs are significantly more expensive than CVs. Another cost consideration is the price of gasoline. van Bree et al., (2010) found that increase in gas prices influences consumer behavior. In a study on consumer adoption of HEVs, Gallagher and Muehlegger (2011) found that consumers usually make the decision to buy HEVs in response to increase in gas prices and government incentives. Non-financial reasons,especially those associated with environment and energy can influence consumers' decisions to pur- chase an EV (Zypryme Research and Consulting, 2010). Hence, the potential for EVs to create social benefits by reducing petroleum consumption and GHG emissions can appeal to certain consumers. Environmental values are powerful predictors of certain consumer actions and positively influence willingness to engage in actions that protect the environment (Oliver and Rosen, 2010). Heffner et al. (2007) found that, to this group of consumers, who show high levels of environmental awareness, choosing a HEV symbolizes ideas related to one's individuality and is used to communicate interests and values. Studying HEV purchases in Los Angeles County, Kahn (2007) found that environmentalists are more likely to purchase HEVs compared to non-environmental- ists. Similarly, Gallagher and Muehlegger (2011) found that social preferences for environmental quality and energy security were a major determinant for consumer adoption of HEVs. Gallagher and Muehlegger concluded that social preferences increased HEV sales more than rising gas prices or tax incentives. Furthermore, historical trends in technology adoption suggest that while new technology is intrinsically attractive to a few early adopters, including visionaries and technology enthusiasts, the majority of consumers will remain close-minded about the new technology (Moore,

2002). This small group adopters has positive attitudes to novelty and is likely to adopt new technologies Heffner et al., 2007).

In Malaysia, no studies have focused on consumers' level of intention, major influencing factors and obstacles to purchase environmental friendly car. This created an information gap between transportation policy makers and the researchers in Malaysia. This inspires the current study. Therefore, the results from this study can be used to provide important insights for policy-makers in developing programs or projects to increase consumers' awareness, removing obstacles and focus on major influential factors for having environment friendly automotive industries in Malaysia.

2. Literature Review:

Green purchasing is yet a very new concept in Malaysia (MGPN, 2003). To date, literature on promotion of green purchasing to individual consumers in Malaysia is still lacking. However, it is noticed that large companies where the headquarters are from the USA, UK and other European countries are promoting 'green' practice. In contrast, for the local manufacturing industries, many still have the attitude of 'wait and see' (MGPN, 2003). In Malaysia, the government is taking efforts in order to educate population with regards to ecology. In April 2009, the Ministry of Energy, Green Technology and Water (KeTTHA) was established. The primary objective of the ministry is to promote high impact research and development of green technologies in Malaysia. The National Green Technology Policy (NGTP) was launched to address the following four main areas of concern: energy, environment, economy and social aspects.

Malaysia has announced plans to boost its automotive sector through the production of electric cars, hoping to both develop a lucrative export trade while actively combating carbon emissions at home. The industry will face competition, however, from other countries in the region whose green automotive initiatives are more developed. The highly anticipated revision of the National Automotive Policy (NAP), the government's long-term plan for the industry, will introduce several new reforms and regulations. Since late 2011, the Malaysian government has been promoting the establishment of a local electric vehicle manufacturing capacity. Both the government and industry lobby groups believe such a move will help broaden the base of the sector. According to projections from the Malaysia Automotive Institute (MAI), reforms to the industry, coupled with higher local and international demand, would see the sector's contribution to the economy triple by 2020. Meeting vehicle standards for energy-efficient vehicles in Malaysia means bringing new technologies into the country. The government will continue to introduce incentives to accelerate the move towards zero-emission mobility. Their goal is to increase the number of hybrid and electric cars on our roads by 10 per cent by 2020.The government is also encouraging private firms to put in place the necessary infrastructure for these vehicles to operate. The government was developing regulations and standards for firms that planned to set up charging stations for electric vehicles. Such measures were needed to create an environment that would generate an interest in the use of alternatively powered cars. However, Malaysia-based vehicle producer Proton and Japan-based Nissan and Mitsubishi are all running trials of battery-powered cars in the country to raise awareness of the plug-in option and test their viability. If Malaysia is to achieve its ambitious target of cutting emissions by 40 per cent, it will need to move quickly to generate industry interest and acceptance of the new product among the public.

In the wake of these developments and a dearth of related literature, this paper attempts to examine the predictors of green product purchase intention in Kuala Lumpur, Malaysia from the Theory of Reasoned Action (Fishbein and Ajzen, 1975) perspective. The TRA encapsulates the elements of values, attitudes, purchase intention and behaviour. Earlier studies using attitude as a predictor of behaviour were inconclusive because intention to purchase has been omitted from the theoretical framework (Follows and Jobber, 2000). While intention is found to be a good predictor of behaviour (Schiffman and Kanuk, 1997), it still could not offer a thorough picture of the customer's mind in relation to his/her purchase decision without examining the values affecting attitudes. When marketers wanted to understand why consumers

act as they do, they require something more than a mechanical measure of what was consumer attitude. Marketers usually want to know the underlying beliefs and values that manifest attitude towards a particular behaviour according to Ramayah et al. (2003). Furthermore, it was found that values and beliefs about environmental issues have no direct link with environmentally responsible (ER) behaviour (Pickett-Baker and Ozaki, 2008). Hence, this paper endeavours to investigate, from a TRA perspective, how values influence attitudes toward environmentally responsible purchase intention of a 'green' product in a developing country in Asia.

Environmentally responsibility research during the 1970s and 1980s were mostly confined to the studies on non-consumption behaviours such as energy conservation and political activism. In the 1970s, the focus was on ecology and energy conservation. (Kinnear et al., 1974). According to Bodur and Sarigollu (2005), the 1980s and 1990s were dominated by research on air pollutionwhich became critical issues in urban areas (Aaker and Bagozzi, 1982; Meadows et al., 1992) and the green marketing trend in the 1990s (Zimmer et al., 1994).Mida (2009) and Gan*et al.* (2008) both agree that environmental consciousness has a direct impact on customers' willingness to pay for a green product and it is directly linked to green purchasing behavior. Studies have shown that awareness of Eco labels has a positive correlation between knowledge of green product and consumers' intention to purchase Ecological products (Juwaheer, 2012; Rashid, 2009; Thorgersen, 2002). Likewise, *"consumers' environmental knowledge"* is presented as the major indicator in the *"green customers' purchasing model"* (Young *et al., 2009).* Environmental consciousness and the understanding environmental problems by consumers highlight the importance of environmental friendly belief among consumers. Hence, customers are willing to pay more for green and Eco labeled products (Gan*et al.*, 2008). ("Belief" and "consumers' willingness to pay" will be briefly discussed later on in this chapter). However, once customers are actually buying green products with or without intention, this purchasing action automatically adds value to the customers' knowledge for the next time. Young *et al. (2009)* state that with every green purchase experience there is some knowledge gained in the way of its decision-making process which is fed back to the consumer general green values and knowledge in the next purchase. MccCarty and Shurm (1994) believe that the value that individuals hold would influence his/her behavior. For example recycling is a behavior that individuals must do, even though the immediate rewards for engaging this behavior is low. Therefore, if an individual engages in recycling, it can be expected to be driven by strong values (Laroche*et al.,* 2001). Hence, the clearer understanding of environmental friendly behavior can be gained by considering this value impact (Laroche*et al.*, 2001).

In recent years, consumers' environmental concerns have shifted into mainstream marketing; therefore it is valuable from a marketing perspective to explore how consumers make informed choices about green products (D'Souza *et al.,* 2006). Green knowledge and environmental consciousness (Eco literacy) developed in two forms: one is that consumers must understand the general impact of the product on the environment and second, the consumer's knowledge of the product itself and how is it being produced in an environmentally friendly way (D'Souza *et al.*, 2006). According to Laroche*et al.* (1996), an individual's knowledge about the environment also plays an important role in influencing the pro-environmental behavior. Educating the consumer is seen as an appropriate method to establish credibility in terms of being environmentally friendly (Laroche*et al.,* 2001). This Eco literacy can be used to measure the consumers' ability to identify different Ecologically related symbols, behaviors and concepts. It could be assumed that an individual's attitude towards the importance of Ecological problems generally may influence the willingness to purchase environmentally friendly products (Cheau&Phau, 2011).

After customers and consumers have been influenced by environmental consciousness and green knowledge by society, the next step is the consumers' green purchasing intention (Mida, 2009). According to Ajzen and Fishbein (1980), behaviors are based on intentions; intentions are based on attitudes toward the behavior and subjective norms, and all these three (intentions, attitudes and subjective norms) is based on individuals' beliefs. According to the Theory of Reasoned Action (TRA), people

evaluate the outcome of their action and behavior before they decide to engage or not engage in a given behavior and it is not controlled by unconscious motives or overpowering desires (Ajzen&Fishbein, 1980). Generally, the TRA is built on the hypothesis that human beings are usually quite rational and make systematic use of the information available to them (Ajzen&Fishbein, 1980). Firstly, the theory has received greater popularity in many disciplines due to the flexibilities possessed by the model which makes it easy to apply to different situations (Ramayah*et al.*, 2009, 2010). To support this, a study by Ozer and Yilmaz (2011) has successfully extended the theory into a context of accountants. On the other angle, Ramayah et al. (2010) have proven that the theory is applicable to examine the green product purchase intention from perspectives of developing countries. Secondly, the study also deemed to choose the theory because it has been tested empirically by various studies and claimed that the two antecedents of the theory, notably attitude and subjective norm, were universally valid to be extended into various contexts of researches. There were common agreements pertaining to the constructs, and asserted that they are particularly beneficial to predicting individual's acceptance of various situations (Tu*et al.*, 2011). Owing to these merits, the authors have opted for the inclusion of the model in the current research.The theory was introduced by Fishbein and Ajzen (1975) in order to establish a relationship among beliefs, attitudes, intentions and behaviours (Md. Taib*et al.*, 2008). The TRA suggests that a person's behaviour is determined by his or her intention to perform the behaviour and that this intention is, in turn, a function of the person's attitude and subjective norm toward the behaviour (Fishbein and Ajzen, 1975). The TRA model is based on the premise that humans are rational and that the behaviours being explored are under volitional control (Fishbein and Middlestadt, 1997).

Attitude and subjective norm shape a person's intention to perform a behaviour. After all, a person's intention determines the actually desired behaviour (Ryu*et al.*, 2003). Attributable to its remarkable achievement in developing a behavioural predictive model, the TRA has been applied to a wide variety of research fields including management, marketing, and banking (Ramayah*et al.*, 2003, 2004; Zainuddin et al., 2004; Ramayah and MohdSuki, 2006; Md. Taib et al., 2008; Lada et al., 2009). Expounded selectively, the study by Lada et al. (2009) examined customers' perception on the intention to choose halal product in the Malaysia context. In order to explain the intention, the study employed TRA to predict the decision to choose. Zainuddin et al. (2004) examined users and non-users' perception of Islamic banking. These studies however have paid little attention to Islamic pawnshop as a subject of their researches. To counter this, the current research is undertaken to reduce this research gap.

Consumers are becoming increasingly more conscious regarding environmental issues. The underlying dimensions contributing to the increase of environmental awareness is that the media industry has reported more extensively on the matter and that the con- sumers' ability to attain information about the subject has become easier. Furthermore, natural disasters and large industry failures add on to the shift in attention by the gen-eral public about how their practices affect the surrounding environment (Kalafatis, Pol-lard, East and Tsogas, 1999).

In another article concerning shifting perspectives and emerging trends the authors Schlegelmilch and Öberseder (2010) recognizes issues of environmental sustainability and green marketing as one of the most important upcoming research avenues. This re-inforces the idea and signals the need for further research in the field of green marketing and how this affects consumers' attitudes and purchase intentions. Straughan and Roberts (1999) claim that younger individuals are more likely to acknowledge environmental issues since they have grown up with an understanding about the implications of this question. Another contributing factor that may have an in-fluence on the attitude towards environmental issues is the education level of the indi-viduals. This supports the above notion that further research needs to be conducted to verify and confirm attitudes of young educated individuals and their attitude toward green products. The attitude-behavior relationship has been examined in many different topics such as recycling behavior (Cheung, Chan and Wong, 1999), binge drinking (Johnston and White, 2003) and green marketing (Kalafatis, Pollard and East, 1991). However, no academic research has been found

concerning the attitude-behavior relationship in regard of green car. This means that there exists a gap in the current re-search which demands attention which we seek to address. The research is relevant from an environmental point of view since we need to adapt and live in a sustainable environment where we conserve and care for the natural resources. However, it is also important to bear in mind that the research is also important from a health perspective because of the effect pollution has on the human physical condition. In order to successfully market and sell automobiles it is important to understand what the consumers think and how they act in different circumstances. This constitutes the need to understand consumer behavior regarding purchasing intentions. To be able to predict consumer behavior it is important to comprehend what causes a behavior and shape individuals' opinion. Many researchers agree upon the notion that attitude is a great influence on consumer behavior, which have been supported in several studies; see (Ajzen and Fishbein 1975, 1977; Sheppard, Hartwick, Warshaw, 1988).

Attitude has been given many different definitions but one of the more common and well-cited is formed by Allport (1935) who define attitude as "a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations which it is related"(p.810). In order to capture the essence of attitude it is very important to explain the reasoning behind people's actions which is the base for rational choice theories. Ajzen and Fishbein (1975, 1980) have developed a theory to explain how human behavior can be predicted by assuming individuals to be rational. According to this theory individuals systematically make use of their own knowledge and the information available to them when assessing an action. Based on this theory Ajzen (1991) has added an extension to deal with the fact that not all factors are voluntarily or under your control. This resulted in the development of the theory of planned behaviour where Ajzen (1991) provides a theoretical model to predict and understand behaviours in certain contexts.

More recent research have developed modified models based on theory of planned be-havior or theory of reasoned action but more suitable for environmental attitude re-search purposes. Kaiser, Ranney, Hartig and Bowler's (1999) environmental attitude model still remains with the same denominator in form of intention but has made a modification of the model's factors. The model revolves around three factors that have a direct influence on individuals' ecological purchasing intentions. The first factor is environmental knowledge which constitutes to the factual knowledge an individual has about the environment. The second factor that influences an individual's purchase intentions is environmental values. Environmental values explain what values an individual has towards the environment which according to Kaiser *et al.,* 1999 have a significant influence on purchase intentions. The final factor included serves to answer the moral dimensions in the model that is connected to environmental behavior and is represented by individuals' responsibility feelings.

As the above discussion indicates there is a need for further research within green marketing in the automobile industry. Since the acquisition of green car introduced by Automobile industry in Malaysia, it is a great opportunity in the Malaysian market. Now the automobile industry in Malaysia has access to valuable information and facilitated contact with the customers. Green car are a steadily increasing trend throughout the world and we want to examine the possibility for green car to seize this opportunity. Malaysian automotive industry has expressed the wish to attract consumers and rejuvenate its customer base. This makes it important for the industry at an early stage to capture the view of this customer group. Environmental responsibility, environmental knowledge and responsibility feelings are three factors that make up the ecological attitude. Hence, this article will focus on investigating attitude among consumers and how they position themselves towards green car.

Another study in a developing country, namely, Turkey, examined environmental sensitivity among three segments of consumers—the active concerned, passive concerned and unconcerned
(Bodur and Sarigollu, 2005). Their findings indicate that attitudes toward specific behaviours were found to be the best predictors of behaviour, followed by general attitudes, education, and locus of control. The

authors found that environmentally concerned consumers are better educated than others, and age, gender and family size have not significant impact on the degree of their environmental concerns. However, the poorer citizens who also have more children and are less educated and who face severe economic problems, did not give priority to environmental concerns as they attribute highest motivation to their own household, consistent with Coddington's (1993) findings. Bodur and Sarigollu (2005) also found that items measuring attitudes toward specific behaviours are better predictors of environmental behaviour than are those measuring general attitudes toward the environment. The active concerned group was found to have greater internal locus of control while those passive concerned and unconcerned are more externally controlled. It is interesting to note too that Turkish people are more externally controlled because of underlying cultural dimensions which reflect collectivism, shared fatalism or spiritual beliefs. However the effects of locus of control seem to be unsubstantiated as little research has been done in this area and there is little standardization in the meaning and measurement of locus of control.

1.2 Attitude, Intention and Behaviour

Since 1970s many researchers have conducted their studies on the subject of attitude (Ajzen and Fishbein 1975, 1977; Sheppard, Hartwick, Warshaw, 1988) and they are known as behavioral research. Behavioral research actually discusses the theoretical concept of attitude of human beings e.g. what product preferences a person has, what causes to support and how we act in response to others (Solomon, M.R. 2010). Intention to purchase a specific product has been found to be a good predictor of actual behaviour in purchasing the product. On the other hand, intention is influenced by the level of effort needed to exercise the behaviour (Bagozzi et al.,1990). Fishbein and Ajzen, 1975 states that actually intension makes balances between behavior and the attitude towards the behavior. Follows and Jobber's ,2000 conducted literature review on environmentally responsible purchase behaviour and in that review, they illustrated that green attitudinal measure is influenced by several environmental issues. It was also recognized by other researcher that the strength of the correlation between attitude and behavior was greater when attitude was considered as a explicit environmental behaviour rather than to a general attitude towards the environment (Hines et al., 1987). Delang and Cheng, 2012 conducted a survey in Hong Kong to investigate people's attitudes towards the environmental aspects of electric cars. The survey shows people believed that electric cars have positive environmental benefit but they have also environmental costs such as battery waste and increased airborne pollutants emitted by power plants when the electricity is produced. In a recent survey of Californians, 74 percent of respondents stated they would "seriously consider getting a more fuel-efficient car" in their next vehicle purchase (Mark et al., 2008). Households' intention to purchase a car involves a social identity and status and it gives a great deal of importance in a social context. It also depends on time, preferences of the attributes of the car such as cost, design, environmental issue and convenience of the consumer.

1.3 Environmental Consequences

It is generally accepted that consumers incorporate social issues into their purchasing practices by evaluating the consequences of their consumption on society (Follow and Jobber, 2000). Therefore, as long as environmental issues remain a concern and individuals report the desire to improve environmental conditions, the marketplace can expect to see an increase in the purchase of environmentally friendly products (Follow and Jobber, 2000). Environmental values are powerful predictors of certain consumer actions and positively influence willingness to engage in actions that protect the environment (Oliver and Rosen, 2010). Heffner et al. (2007) found that, to this group of consumers, who show high levels of environmental awareness, choosing a HEV symbolizes ideas related to one's individuality and is used to communicate interests and values. Studying HEV purchases in Los Angeles County, Kahn (2007) found that environmentalists are more likely to purchase HEVs compared to non-environmental- ists. Similarly, Gallagher and Muehlegger (2011) found that social preferences for environmental quality and energy security were a major determinant for consumer adoption of HEVs. Gallagher and Muehlegger concluded that social preferences increased HEV sales more than rising gas prices or tax incentives.

A study by Ramayahet. al (2010) involving Malaysian setting found that environmental consequences show non-statistically significant effects on green purchase intention among Malaysians baby diapers users, which contradict with previous findings. Ramayahet.al., 2010 believed that the contradictions could be due to the fact that although Malaysians may be ethically aware of environmental consequences, they may not feel morally obligated to exhibit environmentally responsible purchase intention or behavior. Still, according to him, intention to purchase a specific product is found to be a good predictor of actual behavior in purchasing the product. According to Chan and Lau , 2000 both ecological concern and knowledge are important predictors of consumers" green purchase intention. By using structural equation model, Chan and Lau, 2000 demonstrated that a strong positive relationship exist between ecological concern and green purchase intention. However, Paco et al., 2009 showed a contradictory findings, which, although their samples concern about the environment, but they did not turn their concerns into action and they rarely taking part in environmental events. Their concerns were more related to economics factors rather than environmental factors.

1.4 Individual Consequences

Another explanation for inconsistent environmentally friendly consumer activity is the perceived consequences of the behavior on the individual (Follow and Jobber, 2000). This refers to how the environmental responsible behavior is perceived to affect an individual's personal satisfaction and includes the inconvenience of recycling; returning for refilling, charging and changing car battery and any other perceived increase of effort required that would influence intention or behavior negatively. It was postulated in their study that individual consequences are
negatively related to intention to purchase a green product supporting many other studies which conclude that inconvenience and additional effort on the part of the consumer are deterrents for them to adopt green practices. Individual consequences such as individuals who want to buy an environmental friendly car are more likely to choose options that maximize utility based on their preferences, knowledge of alternatives and budget (Roche et al., 2010). The initial cost of an environmental friendly car is significantly higher when compared to a gasoline powered conventional car and this cost increases linearly with battery size or the range of the car. Another cost consideration is the price of gasoline. Van Bree et al., 2010 found that increase in gas prices influences consumer behavior. In a study on consumer adoption of Hybrid Electric Vehicle (HEV), Gallagher and Muehlegger ,2011 found that consumers usually make the decision to buy HEVs in response to increase in gas prices and government incentives. Other barriers to adopt HEV_s are limited battery longevity, battery range, long recharging time, and environmental impacts from increased fossil fuels use at power plants to generate electricity for charging HEVs.

1.5 Values

Values are defined as one's judgments about what is important in life. Values are an integral part of every culture. Along with beliefs and worldview assumptions, they generate behaviour. Values tell people what is good, beneficial, important, useful, beautiful, desirable, or appropriate. They answer the question of why people do what they do. Values help people solve common human problems for survival. Concentrating on attitudinal measures in environmentally friendly behavior, research has focused on values as the predominant guide (Corraliza and Berenguer, 2000; Follows and Jobber, 2000; Laroche et al., 2001; Schwartz, 1994; Schwartz and Bilsky, 1987). Values are the most abstract types of social cognitions that can be used in determining human behavior by providing a glimpse into an individual's interpersonal world (Follows and Jobber, 2000; Grunert and Juhl, 1995). Follows and Jobber (2000) considered self transcendence,
conservation, and self-enhancement to specifically reflect value systems that comprise an individual's attitudes toward the environment, which in turn drive environmentally responsible purchase behavior. Self-transcendence values consist of an active concern for others and the desire to work for the good of society. Selftranscendence is a personal journey of self-discovery, where one strives for greater perfection, higher perspective, and moves beyond prior concepts of behavioral limitations, which goes

beyond ego (Follows and Jobber, 2000). Individuals with high self-transcendence values view others as an extension of the self and, therefore, equate concerns of self with concerns for society. Thus, individuals with high self-transcendence values place a greater importance on pro-environmental behavior, particularly if it proves to provide an overall benefit to society.Conservation values consider the restraint of actions that could upset or harm others and violate social norms (Grunert and Juhl, 1995). These considerations serve to secure relationships and traditions by preserving the status quo. Follows and Jobber (2000) argued that individuals who place a high level of importance on conservation values avoid complicating their lives by not wanting to be involved with something that is not considered a social norm and suggested that subjects who report high levels of conservation values will be consistently less likely to pay more for environmental characteristics. Self-enhancement values reflect the extent to which individuals are motivated to enhance their own personal interests and often are seen as a sort of self-serving bias as individuals wish to see themselves. These self-concepts are believed to develop in response to social experiences with the goal to adapt behavior in order to achieve a positive reaction from their close significant references (Grubb and Grathwohl, 1967). An individual's evaluation of self will greatly influence behavior. Thus, the more valued the self, the more organized and consistent becomes the behavior. This is exemplified through consumers' propensity to purchase items that reflect a positive self-image (Dunning, 2007; Banister and Hogg, 2004; Sedikides et al., 2007). Consumers with high selfenhancement values place a greater importance on the satisfaction a product provides and product image associated with its ownership. Therefore, individuals who place a high importance on self-enhancement values will be more concerned about how a product will directly affect them regardless of environmental consequences.

3. Research objectives and hypotheses

In this study , Follows and Jobber's (2000) consumer test model on environmentally responsible behavior was modified to examine how values such as self-transcendence, conservation and self-enhancement affect attitudes towards environmentally responsible purchase intention,. The theoretical framework is based on a modified TRA. The main objective of this study is to examine how attitudes as measured by environmental consequences and individual consequences are related to environmentally responsible purchase intention of an environmental friendly car. Extant literature has established that general attitudes towards environmental issues and green behaviour are less correlated at the multi-product level in comparison to a specific product level (Ramlah et al., 2010). Based on the findings and conjectures discussed in the literature review in Section 2, the following hypotheses are proposed:

H_{1a} : Attitude towards environmental consequences (ECN) is positively related to purchase intention of a green product (PIN).

H_{1b}: Attitude towards individual consequences (ICN) is negatively related to green product purchase intention (PIN).

H_{2a}: Self-transcendence values (SVN) are positively related to attitude towards the environmental consequences of a green product (ECN).

H_{2b}: Self-transcendence values (SVN) are negatively related to attitude towards the individual consequences of a green product (ICN).

H_{3a}: Conservation values (CVN) are negatively related to attitude towards the environmental consequences of a green product (ECN).

H_{3b}: Conservation values (CVN) are positively related to attitude towards the individual consequences of a green product (ICN).

H_{4a}: Self-enhancement values (SEVN) are negatively related to attitude towards the environmental consequences of a green product (ECN).

H_{4b}: Self-enhancement values (SEVN) are positively related to attitude towards the individual consequences of a green product (ICN).

H_{4c}: Self-enhancement values (SEVN) are negatively related to purchase intention of a green product (PIN).

The main objective of this paper is to examine how attitudes towards a specific 'green' product may influence purchase intention of the product. This section presents the model which is an adaptation of Follows and Jobber's (2000)TRA model. (Fig. 1). The variables are nomologically arranged in a "values-attitude-purchase intention" format. Values are represented by self-transcendence (SVN), conservation (CVN) and self-enhancement values (SEVN) while attitudes consist of 2 dimensions, namely, attitude towards environmental consequences (ECN) and attitude towards individual consequences (ICN) of purchasing a green product which is represented by intention to purchase (PIN). The relationships between the variables as hypothesized above are illustrated in Fig. 1.

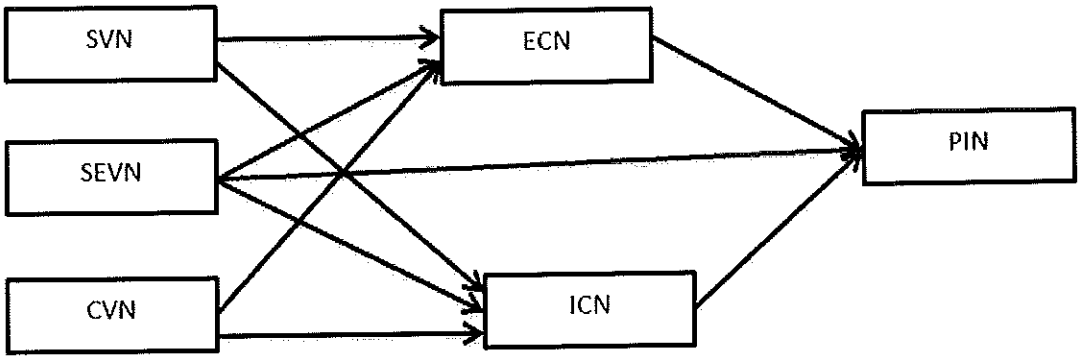

Figure 1. The research model

4. Research Methods:

4.1 Survey design and sampling method

We employed direct face-to-face interviews in this study because this has been shown to be the most reliable approach (Carson *et al.,* 1996). The survey was conducted in August, 2012. A random sample was taken in the residential areas in Kuala lumpur such as Selayang, Cheras, Ampang, Taman Jaya and Kuala Lumpur. A total of 200 responses were received and used for subsequent analysis. Schreiber et al. (2006) acknowledged that the sample size of a survey is dependent on the normality of data and the proposed statistical estimation methods. The generally agreed practice is that to get 10 participants for every free parameter or item in the questionnaire (Loon 2009). Further, Garver&Mentzer (1999) and Hoelter (1983) have suggested a sample size of 200 for SEM to provide sufficient power of analysis (London 2009). Steven (1996) suggested a sample size of at least fifteen times of the number of observed variables (Golob, 2003). The sample size of 200 in this survey confirms all these suggestions and practices as there were 20 items and five observed variables.

4.2 Questionnaire Development

Pro-environmental attitude measure is typically operationalized by blending statements concerning a variety of environmental issues (Follows & Jobber 2000). Samuelson and Biek (1991) argued that a

significant correlation between attitude and behavior could only be obtained if both attitude and behavior measures correspond to a specific issue or object. Hines et al. (1987) found that the attitude-behavior relationship is weaker when general attitude towards the environment operationalized instead of specific environment related behavior. So in this case as the behavior is related to a specific act of considering carbon footprint while shopping, the attitudinal measure should relate to carbon labeling. As no pre-validated scales were available for measuring attitude-behavior relationship towards carbon labels, a scale was designed and made operational. The questionnaire was developed following the literatures on environmental behavior and previous application of TPB such as Ajzen 1991 and Tonglet et al. 2004. In order to develop an effective scale multiple pilot tests were performed. In the initial rounds, a wide variety of questions with a mix of negatively worded questions were presented to increase the validity of responses. However, many respondents reported fatigue and dropped out. Further, in the reliability analysis lower reliability of scale (Cronbach alpha) was discovered. To increase the reliability of the scale, multiple changes were made and all the questions were made positive ly worded to increase participation and decrease fatigue. The final questionnaire for measuring elements of the model contained 20 items. According to the model, the questions broadly fell into five categories as presented in the Table1 below.

4.3 Research instrument

This study used a questionnaire as the primary instrument to collect data. The questionnaires were divided into seven sections of A, B, C, D, E, F, and G. In section A, there was the demographic information of the respondents which included their gender, age, nationality, number of years studying at the university, level of study, and faculty. In section B, there were 20 items intended to measure the level of internet addiction among IIUM, UM, UPM, UKM and USM students such as minimal, moderate and excessive users. It was calculated using excel based on a 5-point scale with 1 being "not at all" and 5 being "always" As suggested by Young, cut-off scores for the IAT were used to classify Internet users based on the severity of their addictive behavior (Young, 1998).The first 20 questions required the participants to rate the characteristics of their internet using habit. The following five sections' questions were on a 5-point Likert-type agreement scale with 1 being "Strongly disagree" and 5 being "strongly agree". The next 8 questions addressed the participants' observable impacts on their daily task. The subsequent 5 questions addressed the respondents' social comforts. The next 5 questions addressed the respondents' Internet obsession. The next 8 questions addressed the respondents' most characteristics of their situation and the last part of the questionnaire was to know the respondent's activities in which they are frequently use Internet.

4.4 Variable used in this study

The definitions of the variables used in the study are as follows.

Self-transcendence (SVN)

This term is composed of values that reflect the extent to which these values motivate people to transcend selfish concerns and promote the welfare of others, close and distant, and of nature (Follows and Jobber, 2000). It also includes values representing benevolence, a concern for the welfare of people, with whom one is in frequent personal contact, including a wider concern for people and the environment which is social-altruistic in nature (Stern et al., 1995). Examples of items measuring self-transcendence are universalism (equality—brotherhood, equal opportunity), and benevolence (helpful—working for the welfare of others).

Conservation (CVN)

Conservation value reflects "a need to preserve the status quo and the certainty it provides in relationships with close others, institutions and traditions" (Follows and Jobber, 2000). According to the authors, conformity refers to restraint on behaviour which can upset others or on behaviour that does not conform to social norms. Other authors refer to conservation as a social influence whereby individuals are

concerned about the perception of others such as family and neighbours if they do not practice ER purchases (do Valle et al., 2004). Items measuring conservation include conformity (restrained, self-disciplined, polite) and security (clean, neat, tidy).

Self-enhancement (SEVN)
This value is related to individualistic values which reflect "the extent to which they motivate people to enhance their own personal interests" (Follows and Jobber, 2000, p. 729). Selfenhancement can be measured by the importance of pleasure or self-gratification and has a predominantly self-centred orientation. Hedonism, achievement and power all have a self-centred orientation (McCarty and Shrum, 1994). Examples of self-enhancement items are achievement (aspiring, hardworking), and power (social recognition, respect, admiration).

Environmental consequences (ECN)
This construct is generally measured using items which reflect concern for a variety of environmental issues such as recycling, waste prevention, energy use and conservation, and pollution which damage the environment. Some authors equate environmental damage as the increase in energy use when processing environmentally responsible products using current levels of technology (Gurtoo and Antony, 2007). Environmental consequences have been applied in studies examining the relationships between attitude and multiple- or single-act environmentally responsible behaviours. Examples of measures of environmental consequences are perceptions of how important a product is in affecting the environment, or the energy usage in the production and marketing of this product.

Individual consequences (ICN)
This second type of attitudinal measure reflects the effort that needs to be made by an individual when carrying out an environmentally responsible behaviour (e.g. recycling) (Saphores et al., 2006; Thogersen and Grunert-Beckmann, 1997). Besides, effort, some other measures of individual consequences are convenience (Domina and Koch, 2002), cost incurred (Vining and Ebreo, 1990), and proximity.

Purchase intention (PIN)
Intention has been defined as the subjective probability to perform a specific behaviour (Fishbein and Ajzen, 1975). The role of intentions in an attitude–behaviour relation is a function of the level of effort required to execute a behaviour such as purchasing a product or service (Bagozzi et al., 1990).

5. Results and discussion

5.1 The Socioeconomic Characteristics of the Respondents

Table 2 reports the descriptive statistics for the main socioeconomic characteristics of the respondents. The gender distribution of the samples was 51% was male and 49% was female. Malaysia's population (2001 Census) growth is at 1.723 and sex ratio is 1.069 male to 1 female (CIA, 2010).The average age was just 44, with the lowest being 19 and the highest 66 years old. In this survey, 12% of the respondents were Malays, 26 % were Indian, 61% were Chinese and 1.5% were others. The percentage of Malay population in Kuala Lumpur alone was around 38% in 2000 while the Chinese population comprised 43% and Indians 10% (Wikipedia, 2010). The
The highest percentage of the respondents had diploma (22.5%), 26.36% had bachelor, 19 % had reached higher secondary levels, 5.5 had reached postgraduate levels and 21.5% had lower secondary levels. Malaysia's literacy population is 88.7% while 97.5% in Kuala Lumpur (Wikipedia, 2010). Only 9% of the respondents had income range of RM 2000 and less than RM 2000. The highest percentage of the respondents (47.27%) had an income range of RM2001 up to RM4000 per month. while 39% of the respondents had income range of RM4001 up to RM6000. There were only 7.5 % respondents with an income range of RM6001 up to RM8,000 and 4.5 % of the respondents had income range of more than

RM8,000 per month. According to the Department of Statistics Malaysia, more than half of the Malaysian respondents earn a monthly income of less than RM3000. The remaining of the respondents earn between RM3001 and RM4000 (12.9%), RM4001 and RM5000 (8.6%), RM5,001 and RM10,000 (15.8%), and above RM10,000 (4.9%) (Department of Statistics, 2009).

Table 2 Socio-economic Characteristics of the Respondents (N=200)

Demographics	Frequency	Percentage
Gender		
Male	102	51
Female	98	49
Education Level		
No formal education	10	5
Primary education	10	5
Lower secondary school	43	21.5
Higher secondary school	38	19
Diploma	45	22.5
Graduate	43	21.5
Post-graduate	11	5.5
Age		
18-30 years	79	39.5
31-45 years	94	47
46-60 years	27	13.5
60 years and above		
Income		
Less than RM 2,000	18	9
RM 2,001-RM 4,000	80	40
RM4,001-RM6000	78	39
RM6001 and RM8000	15	7.5
RM 8,001 and above	9	4.5

Source: Survey 2012

5.2 Tests for confirmatory factor analysis (CFA)

According to Kline (2010), the purpose of a measurement model points to the appropriateness as measurement instrument of the observed indicators representing a latent variable. This is echoed by Hair *et al.* (2010), who observed that in measurement theory, the purpose is to estimate the relationship between the observd and the underlying latent variables. The adequacy of a measurement model is performed by CFA; in doing so, four fit indices are checked to ascertain the fitting of the model with the data: chi-square statistic, normed chi-sqaure, root mean square approximation (RMSEA) and comparative fit index (CFI). For an adequate model fit, general guidelines suggest cut-off values for such indices: Normed Chi-Square and RMSEA are to be less than 5 and 0.088 respectively, while CFI values are to be above 0.9 (Hair el al., 2010; Byrne, 2010).

Prior to testing the structural equation model, CFA was performed on the entire set of measurement items simultaneously. The process of evaluating the measurement model resulted in deleting terms based on the factor loadings only factor loadings of less than 0.40 (Field, 2009). Based on the CFA tests, all seven dimensions had adequate model-to-data fit: normed chi square value below 2.41; CFI value above 0.95;

and RMSEA value less than 0.080. This tests also evaluated the reliability and construct validity. Cronbach's Alpha measures the reliability coefficient, which indicates the consistency of the entire scale (Hair, *et al.*, 2010), or the overall reliability of the questionnaire (Field, 2009). The results from this study showed all six dimensions reliability values above 0.70 which indicated that the questionnaire was reliable and consistent (see Table I below). According to Hair *et al.* (2010), a standardized factor loading should be 0.40 or higher, ideally 0.70 or higher, provides strong evidence of convergent validity. In this study, all the items had significant factor loadings, most of them greater than 0.60, which indicates adequate convergent validity.

Table 3: Construct Validity of Confirmatory Factory Analysis

Items	Stand. loadings	Reliability
Self-transcendence value (SVN)*(Normed χ^2 = 1.818, CFI = 0.996, RMSEA = 0.064)*		
Helpfulness is important to me	77	0.87
Forgiveness is important to me	.81	
Love and affection is important to me	.75	
Friendship and generosity is important to me	.85	
Conservation values(CVN)*(Normed χ^2 = 1.536, CFI =0. 995, RMSEA = 0.052)*		
Respectfulness and politeness is important to me	.77	0.76
Self-control such as restrained and self-disciplined is important to me	.84	
Clean and tidy environment is important to me	.82	
Self-enhancement values(SVEN)*(Normed χ^2 = 1.46, CFI = 0.984, RMSEA = 0.046)*		
For the achievement of my life, hardworking and aspiring is important to me	.56	0.62
Enjoyable and leisurely life is important to me	.67	
Environmental consequences (ECN)*(Normed χ^2 = 1.19, CFI = 0.999, RMSEA = 0.030)*		
Conventional car can create air pollution	.77	0.82
Conventional car can create smog in large cities	.84	
Conventional car produce greenhouse gases such Co2, N2O that contribute to global warming and climate change	.69	
Conventional car affect water quality because oil and particles get washed into lakes and rivers	.59	
Individual consequences (ICN)*(Normed χ^2 = 2.246, CFI = 0.991, RMSEA = 0.079)*		
Environmental friendly car is fuel-efficient car. So, it can reduce CO2 emission	.76	0.81
Environmental friendly car can decrease the use of petroleum	.76	
Environmental friendly car can reduce the greenhouse gas emission	.85	
Environmental friendly car is comfortable to use	.52	
Purchase intention (PIN)*(Normed χ^2 = 1.335, CFI = 0.999, RMSEA = 0.041)*		
I would buy an environmental friendly car if the quality is lower than a	.77	0.88

Items	Stand. loadings	Reliability
Self-transcendence value (SVN)(Normed $\chi^2 = 1.818$, ***CFI = 0.996, RMSEA = 0.064)***		
conventional car		
I would buy an environmental friendly car even if the performance is lower than a conventional car	.85	
I would buy an environmental friendly car even if it has a less appealing design	.89	
I would buy an environmental friendly car even if it is less comfortable	.87	

4.3 Test for Structural Equation Modeling (SEM)

The structural equation modeling (SEM) is used to test the causal effect among the main constructs of a hypothesized model (Kline, 2010). In this study, a structural model was tested to examine the relationship among academic performance, internet addiction, attitudes using internet, social comforts, internet obsession, and observable impacts (see Figure 1 below). The model had an adequate fit to the data: chi square per degree of freedom (4.139/3) = 1.380, less than 3; CFI = 0.980, greater than 0.90; p = 0.017, less than $p \geq 0.005$; and RMSEA = 0.048, less than 0.10 but greater than 0.088 (Hair et al., 2010) and also the p-value was not significant suggesting adequate model fit. The significance of the individual paths is shown in Fig. 1. Five out of the 9 paths were significant with p-values less than 0.1 with R^2 values ranging from 0.44 to 0.33 which indicates that the variance explained ranged from 44% for environmental consequences to 33% for individual consequences whereas 51% of the variance in intention to use was accounted for.

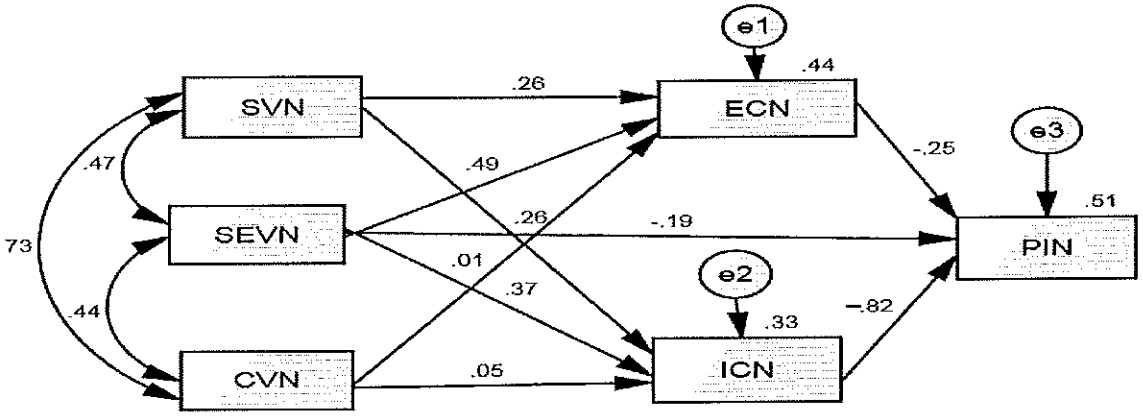

Figure 3: Structural equation modeling of ECN,ICN,SVN,SEVN and CVN and purchase intention.

Table II: Hypothesised Path Coefficients

Hypothesized paths			Coefficient (β)	P-value (sig.)	Remarks
H1	ECN	+ve PIN	-.355	.000	Unsupported
H2	ICN	-ve PIN	-1.339	.000	Supported
H3	SVN	+ve ECN	.238	.001	Supported
H4	SVN	–ve ICN	.207	.003	Unsupported

H5	CVN –ve ECN	.007	.928	Unsupported
H6	CVN +ve ICN	.048	.530	Supported
H7	SEVN–ve ECN	.491	.000	Unsupported
H8	SEVN +ve ICN	.321	.000	Supported
H9	SEVN –ve PIN	-.277	.005	Supported

Table 5 presents the results of the multiple regression analysis using Structural Equation Modeling techniques. In examining the relationships between attitudes towards green car purchase intention and environmental consequences (ECN), ECN are negatively and significantly related to purchase intention of green car (PIN) at $p < 0.01$. An $R^2 = 0.56$ in Fig. 1 indicates that attitude towards environmental consequences of purchasing a 'green' car can explain about 56% of the variance in intention to purchase the same car. Hence H_{1a} is not supported. This finding is not consistent with that of Follows and Jobber (2000) which found that environmental consequences are positively related to environmentally responsible purchase intention.

In examining the relationships between attitudes towards green car purchase intention and Individual consequences (ICN), ICN are negatively and significantly related to purchase intention of green car (PIN) at $p < 0.01$. An $R^2 = 0.67$ in Fig. 1 indicates that attitude towards environmental consequences of purchasing a 'green' car can explain about 67% of the variance in intention to purchase the same car. Hence H_{1b} is supported. This finding is consistent with that of Follows and Jobber (2000) which found that individual consequences are negatively related to environmentally responsible purchase intention.

Self-transcendence values (SVN) were found to have a positive and significant relationship with environmental consequences (ECN) of purchasing a 'green' car. The positive relationship between SVN and ECN supported H_{2a} which hypothesized a positive relationship. SVN has statistically significant relationship with environmental consequences (ECN) of the purchase of the green car. This is consistent with earlier finding (Follows and Jobber, 2000) which was significant at $p < 0.01$.

Self-transcendence values (SVN) were found to have a significant and positive relationship with individual consequences (ICN) of purchasing a 'green' car ($p < 0.05$). The positive relationship between SVN and ICN did not support H_{2b} which hypothesized a negative relationship. This is not consistent with earlier finding (Follows and Jobber, 2000) which was significant at $p < 0.05$. Conservation values (CVN) have a positive and insignificant relationship with ECN and ICN . H_{3a} is not supported as it was hypothesized to be a negative relationship. H_{3b} is supported at the but not significantly.

Self-enhancement values (SEVN) were found to be positively and significantly related to ECN and ICN ($p < 0.01$) and negatively related to PIN ($p < 0.01$), hence $H4_b$ and H4c were supported. H4a was not supported as it was hypothesized to be a negative relationship. Table 6 summarizes the results of the hypothesis testing.

6. Conclusion

There have been abundant evidences of environmentally concerns might influence consumer buying intention. The positive interrelationships of these two variables have been studied extensively in the consumer research literature (Ramayahet.al ,2010; Chan and Lau, 2000). A study by Ramayahet. al (2010) involving Malaysian setting found that individual consequences were negatively related to green purchase intention and it was in lined with previous research findings. However, environmental consequences show non-statistically significant effects on green purchase intention among Malaysians baby diapers users, which contradict with previous findings. Ramayahet. al (2010) believe that the contradictions could be due to the fact that although Malaysians may be ethically aware of environmental

consequences, they may not feel morally obligated to exhibit environmentally responsible purchase intention or behavior. Still, according to him, intention to purchase a specific product is found to be a good predictor of actual behavior in purchasing the product. Environmental consequences do not have a statistically significant relationship with ER purchase intention. This is not consistent with Follows and Jobber's (2000) study. This inconsistency could be due to the fact that although Malaysians may be ethically aware of the environmental consequences they may not feel morally obligated to exhibit environmentally responsible (ER) purchase intention. A similar observation by Ramayah et al. (2003) suggests that although pirated music CD buyers know that it is ethically wrong to purchase pirated CDs, they do not see it obligatory to purchase original music CDs. The inconsistency here could also be due to the perception that individual consequences of participating in recycling overrides all other consideration and hence top priority is not given to environmental concerns as to their own individual household.

The main objective of this study is to examine how attitudes as measured by environmental consequences and individual consequences are related to environmentally responsible purchase intention of an environmental friendly car. Extant literature has established that general attitudes towards environmental issues and green behaviour are less correlated at the multi-product level in comparison to a specific product level (Ramlah et al., 2010). In this study , Follows and Jobber's (2000) consumer test model on environmentally responsible behavior was modified to examine how values such as self-transcendence, conservation and self-enhancement affect attitudes towards environmentally responsible purchase intention,. The theoretical framework is based on a modified TRA. The main objective of this study is to examine how attitudes as measured by environmental consequences and individual consequences are related to environmentally responsible purchase intention of an environmental friendly car. Extant literature has established that general attitudes towards environmental issues and green behaviour are less correlated at the multi-product level in comparison to a specific product level (Ramlah et al., 2010). When interpreting the results, it becomes clear that there is a distinct demand for environmentally friendly automobiles amongst consumers. The respondents were positive toward environmentally friendly automobiles and a majority intended to purchase such a car. There is a trend toward increased awareness of environmental concern and consumers are more aware of how their behavior affects the environment. When weighing the evidence, this global trend seems to be apparent also among consumers. We believe that there will be an increase in demand for environmentally friendly automobiles and Malaysian automobile should take on this opportunity. The practical implications for Malaysian automobile will be treated further in the practical implications section where we will give recommendations on how the company can take advantage of this opportunity. Furthermore, it would be very interesting to see a study focusing more thoroughly on the consumers' attitude who do not intend to purchase environmentally friendly cars to see what reasons that may influence their decision. This would contribute valuable information why some consumers do not consider to purchase environmentally friendly cars.

7. Recommendations

The study focuses on a specific product when examining the value sets, and attitudes towards an ER purchase in Malaysia. This would suggest that findings could not be easily generalizable to all green products. Furthermore generalizability of the findings of this study seems limited as it is both product and context specific. This study suggests that factors determining green product purchase intention are related to the context of the studies. In addition, cultural issues which may differ from country to country could also put limitations to the generalizability of studies on ER purchase intention although they may add richness and insightful complexity to model development. Perhaps future studies using a typical genre of products such as electronic components which involve similar environmental issues such as recycling and energy usage would offer a more generalizable conclusion for a study of this nature. As an extension of this study, future research could shift focus to non-product genres such as green marketing and advertising, green investments and finance and the ER purchase behavior in the carbon market given these business activities have vast social, cultural and legislative implications. It is pertinent to note also that most of the literature on recycling and conservation seems to adopt the motivational perspective of examining environmental concerns and behaviour. However, recently there is an emergent view to apply

practice theories into investigating consumption and related environmental problems arising from it (Ropke, 2009). The author has posited that the use of practice theories is more appropriate in understanding environmental problems when they are linked to consumption patterns as "practices" should be looked at as an entity incorporating materials (objects, equipment and bodies or body parts), meanings (making sense of the activities
such as whether they are good or problematic, involving emotions, beliefs and understandings) and competence (skills and knowledge needed to carry out the practice). Perhaps future research
should also adopt practice theories in conceptualizing research frameworks on ER behaviour. In our research we have had the primary focus on investigating the relationship between the factors environmental knowledge, environmental values, and responsibility feelings with intentions. This means that we have prioritized a few factors that we found to be suitable for the research at hand. That is why theoretical models focusing on other factors relating to intention such as Ajzen and Fishbeins (1980) would be very interest-ing to test in order to see how good that model fits the research task. This present study hopes to contribute to the government's effort at green technology innovation and management, whereby policies and efforts need to take into consideration an understanding of the motivations for people to recycle and purchase green products. This study also suggests the relevance and usefulness of the TRA in examining beliefs, values and attitudes towards green products purchase intention in Malaysia.